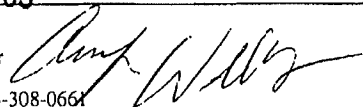


# INTERNATIONAL SEARCH REPORT

International application No.

PCT/US03/01027

<b>A. CLASSIFICATION OF SUBJECT MATTER</b> IPC(7) : C12M 3/00; C12Q 1/02 US CL : 435/29,287.3 According to International Patent Classification (IPC) or to both national classification and IPC																				
<b>B. FIELDS SEARCHED</b> Minimum documentation searched (classification system followed by classification symbols) U.S. : 435/29, 286.4, 286.5, 287.3, 288.5, 288.7, 287.2: 422/68.1,102; 359/398 Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)																				
<b>C. DOCUMENTS CONSIDERED TO BE RELEVANT</b> <table border="1"> <thead> <tr> <th>Category *</th> <th>Citation of document, with indication, where appropriate, of the relevant passages</th> <th>Relevant to claim No.</th> </tr> </thead> <tbody> <tr> <td>Y,P</td> <td>US 2002/0076689 A1 (FARB et al.) 20 June 2002 (20.06.2002), see entire document.</td> <td>1-170</td> </tr> <tr> <td>Y,P</td> <td>US 6,470,226 B1 (OLESEN et al.) 22 October 2002 (22.10.2002), see entire document.</td> <td>1-170</td> </tr> <tr> <td>Y</td> <td>US 6,193,647 B1 (BEEBE et al.) 27 February 2001 (27.02.2001), see entire document.</td> <td>1-170</td> </tr> <tr> <td>A</td> <td>US 5,449,492 A (KRISHTAL) 12 September 1995 (12.09.1995), see entire document.</td> <td>1-170</td> </tr> <tr> <td>A</td> <td>US 2001/0029320 A (TRUMBULL et al.) 11 October 2001 (11.10.2001), see entire document.</td> <td>1-170</td> </tr> </tbody> </table>			Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.	Y,P	US 2002/0076689 A1 (FARB et al.) 20 June 2002 (20.06.2002), see entire document.	1-170	Y,P	US 6,470,226 B1 (OLESEN et al.) 22 October 2002 (22.10.2002), see entire document.	1-170	Y	US 6,193,647 B1 (BEEBE et al.) 27 February 2001 (27.02.2001), see entire document.	1-170	A	US 5,449,492 A (KRISHTAL) 12 September 1995 (12.09.1995), see entire document.	1-170	A	US 2001/0029320 A (TRUMBULL et al.) 11 October 2001 (11.10.2001), see entire document.	1-170
Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.																		
Y,P	US 2002/0076689 A1 (FARB et al.) 20 June 2002 (20.06.2002), see entire document.	1-170																		
Y,P	US 6,470,226 B1 (OLESEN et al.) 22 October 2002 (22.10.2002), see entire document.	1-170																		
Y	US 6,193,647 B1 (BEEBE et al.) 27 February 2001 (27.02.2001), see entire document.	1-170																		
A	US 5,449,492 A (KRISHTAL) 12 September 1995 (12.09.1995), see entire document.	1-170																		
A	US 2001/0029320 A (TRUMBULL et al.) 11 October 2001 (11.10.2001), see entire document.	1-170																		
<input type="checkbox"/> Further documents are listed in the continuation of Box C. <input type="checkbox"/> See patent family annex.																				
<table border="0"> <tr> <td>           * Special categories of cited documents:            "A" document defining the general state of the art which is not considered to be of particular relevance            "E" earlier application or patent published on or after the international filing date            "L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)            "O" document referring to an oral disclosure, use, exhibition or other means            "P" document published prior to the international filing date but later than the priority date claimed         </td> <td>           "T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention            "X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone            "Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art            "&amp;" document member of the same patent family         </td> </tr> </table>			* Special categories of cited documents: "A" document defining the general state of the art which is not considered to be of particular relevance "E" earlier application or patent published on or after the international filing date "L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified) "O" document referring to an oral disclosure, use, exhibition or other means "P" document published prior to the international filing date but later than the priority date claimed	"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention "X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone "Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art "&" document member of the same patent family																
* Special categories of cited documents: "A" document defining the general state of the art which is not considered to be of particular relevance "E" earlier application or patent published on or after the international filing date "L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified) "O" document referring to an oral disclosure, use, exhibition or other means "P" document published prior to the international filing date but later than the priority date claimed	"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention "X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone "Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art "&" document member of the same patent family																			
Date of the actual completion of the international search 08 May 2003 (08.05.2003)		Date of mailing of the international search report <b>28 MAY 2003</b>																		
Name and mailing address of the ISA/US Mail Stop PCT, Attn: ISA/US Commissioner for Patents P.O. Box 1450 Alexandria, Virginia 22313-1450 Facsimile No. (703)305-3230		Authorized officer William H. Beisner  Telephone No. 703-308-0664																		